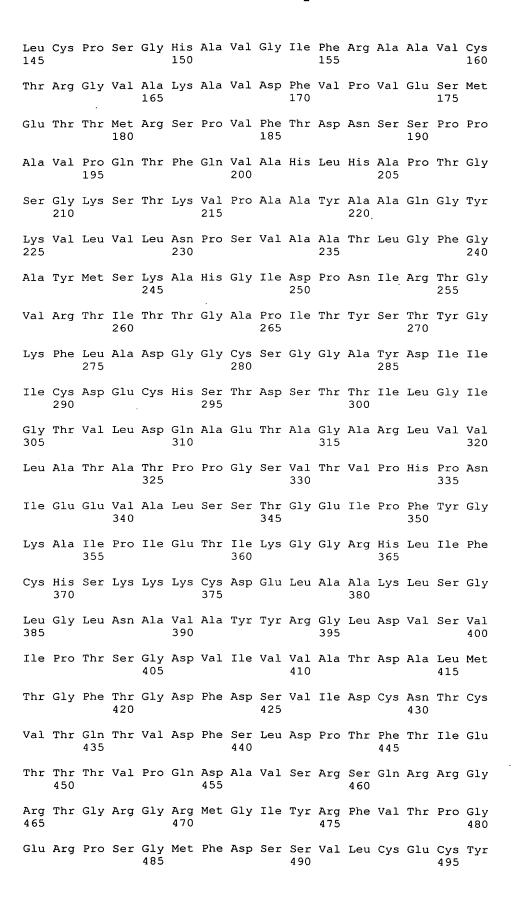
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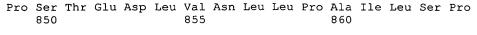
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Thr Ala Arg His Thr Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met 1795 1800 1805

Tyr Ala Pro Thr Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe 1810 1815 1820

Ser Ile Leu Leu Ala Gln Glu Gln Leu Glu Lys Ala Leu Asp Cys Gln 1825 1830 1835 1840

Ile Tyr Gly Ala Cys Tyr Ser Ile Glu Pro Leu Asp Leu Pro Gln Ile 1845 1850 1855

Ile Gln Arg Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser 1860 1865 1870

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Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile Pro Ala Ala 1925 1930 1935

Ser Gln Leu Asp Leu Ser Ser Trp Phe Val Ala Gly Tyr Ser Gly Gly 1940 1945 1950

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Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg 145 150 155 160

Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu 165 170 175

Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro 180 185 190

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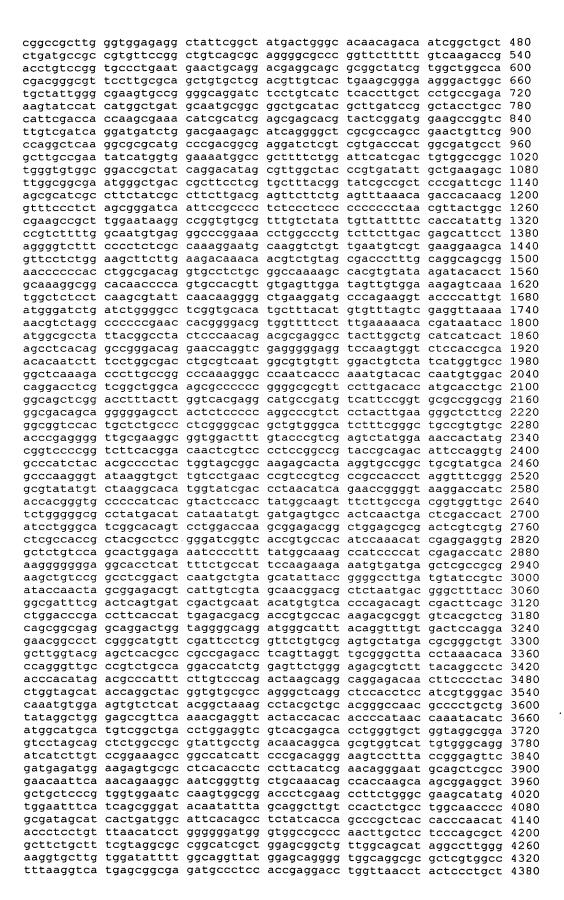
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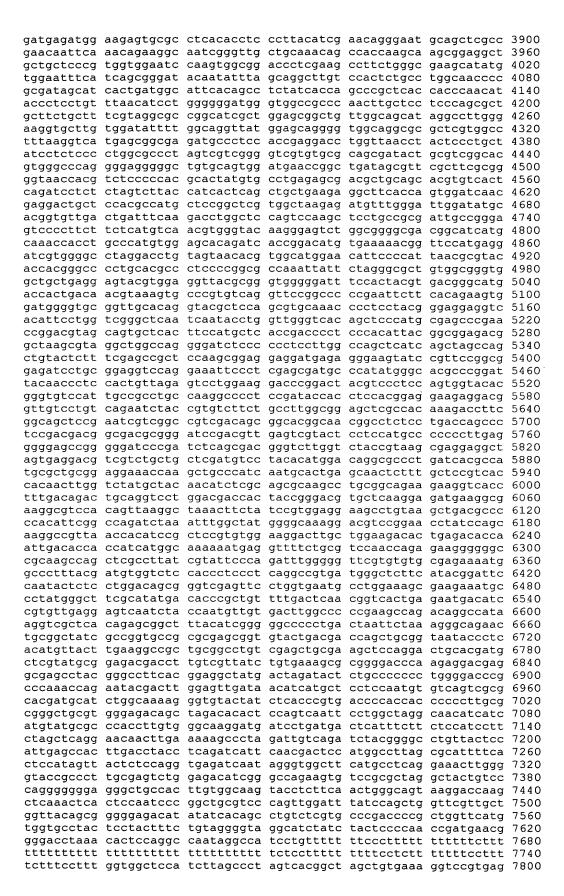


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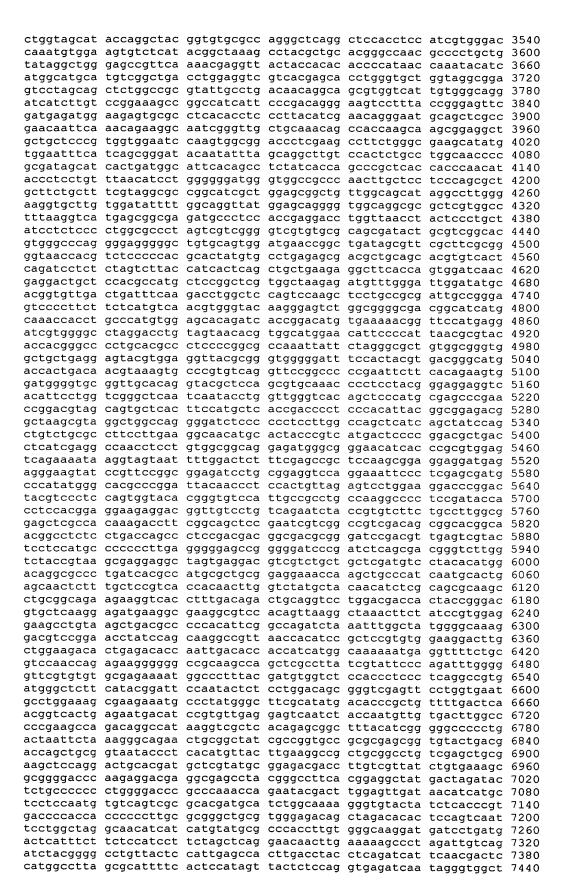


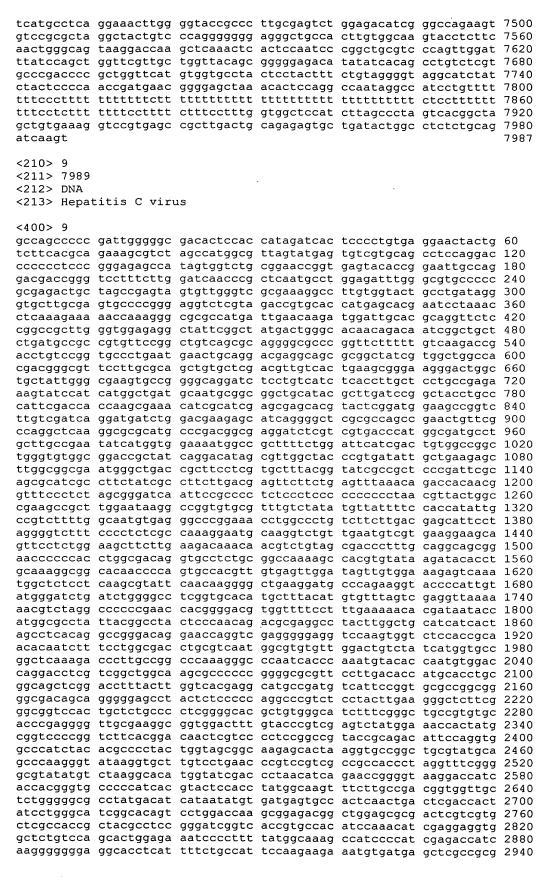
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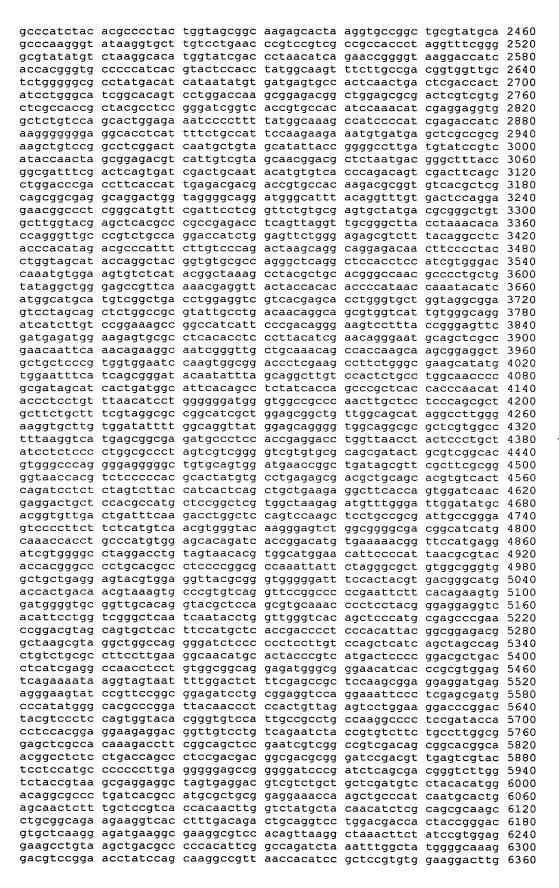
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Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys 65 70 75 80

Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly 85 90 95

Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg 100 105 110

Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His 115 120 125

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Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg

1095

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Asp Gln Pro Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr 1345 1350 1355 1360

Ser Ser Met Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser 1365 1370 1375

Asp Gly Ser Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val 1380 1385 1390

Cys Cys Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys 1395 1400 1405

Ala Ala Glu Glu Thr Lys Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu 1410 1415 1420

Leu Arg His His Asn Leu Val Tyr Ala Thr Thr Ser Arg Ser Ala Ser 1425 1430 1435 1440

Leu Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp 1445 1450 1455

- His Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val \$1460\$ \$1470\$
- Lys Ala Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro 1475 1480 1485
- His Ser Ala Arg Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn 1490 1495 1500
- Leu Ser Ser Lys Ala Val Asn His Ile Arg Ser Val Trp Lys Asp Leu 1505 1510 1515 1520
- Leu Glu Asp Thr Glu Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn 1525 1530 1535
- Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg 1540 1545 1550
- Leu Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala 1555 1560 1565
- Leu Tyr Asp Val Val Ser Thr Leu Pro Gln Ala Val Met Gly Ser Ser 1570 1580
- Tyr Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn 1585 1590 1595 1600
- Ala Trp Lys Ala Lys Lys Cys Pro Met Gly Phe Ala Tyr Asp Thr Arg 1605 1610 1615
- Cys Phe Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser 1620 1630
- Ile Tyr Gln Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Arg 1635 1640 1645
- Ser Leu Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys 1650 1655 1660
- Gly Gln Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr 1665 1670 1680
- Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ala Ala Ala 1685  $1690 \hspace{1.5cm} 1695$
- Cys Arg Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp 1700 1705 1710
- Asp Leu Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Glu Ala 1715 1720 1725
- Ser Leu Arg Ala Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro 1730 1735 1740
- Gly Asp Pro Pro Lys Pro Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys 1745 1750 1755 . 1760
- Ser Ser Asn Val Ser Val Ala His Asp Ala Ser Gly Lys Arg Val Tyr 1765 1770 1775
- Tyr Leu Thr Arg Asp Pro Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu 1780 1785 1790
- Thr Ala Arg His Thr Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met 1795 1800 1805

Tyr Ala Pro Thr Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe 1810 1815 1820

Ser Ile Leu Leu Ala Gln Glu Gln Leu Glu Lys Ala Leu Asp Cys Gln 1825 1830 1835 1840

Ile Tyr Gly Ala Cys Tyr Ser Ile Glu Pro Leu Asp Leu Pro Gln Ile 1845 1850 1855

Ile Gln Arg Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser 1860 1865 1870

Pro Gly Glu Ile Asn Arg Val Ala Ser Cys Leu Arg Lys Leu Gly Val 1875 1880 1885

Pro Pro Leu Arg Val Trp Arg His Arg Ala Arg Ser Val Arg Ala Arg 1890 1895 1900

Leu Leu Ser Gln Gly Gly Arg Ala Ala Thr Cys Gly Lys Tyr Leu Phe 1905 1910 1915 1920

Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile Pro Ala Ala 1925 1930 1935

Ser Gln Leu Asp Leu Ser Ser Trp Phe Val Ala Gly Tyr Ser Gly Gly 1940 1945 1950

Asp Ile Tyr His Ser Leu Ser Arg Ala Arg Pro Arg Trp Phe Met Trp 1955 1960 1965

Cys Leu Leu Leu Ser Val Gly Val Gly Ile Tyr Leu Leu Pro Asn 1970 1975 1980

Arg 1985

<210> 16

<211> 447

<212> PRT

<213> Hepatitis C virus

<400> 16

Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val Leu  $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro 20 25 30

Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg 35 40 45

Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr 50 55 60

Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
65 70 75 80

Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly 85 90 95

Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg 100 105 110

Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His 115 120 125

Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro 185 Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ile Gln Leu Ser Ala Pro Ser Leu Lys Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu Pro Leu Gln Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu Ile Leu Arg 295 Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala Arg Pro Asp Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala Pro Pro Ile Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu Ser Thr Val Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly Ser Ser Glu 375 Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro Asp Gln Pro Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr Ser Ser Met 410 Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser 425 Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val Cys Cys

<210> 17

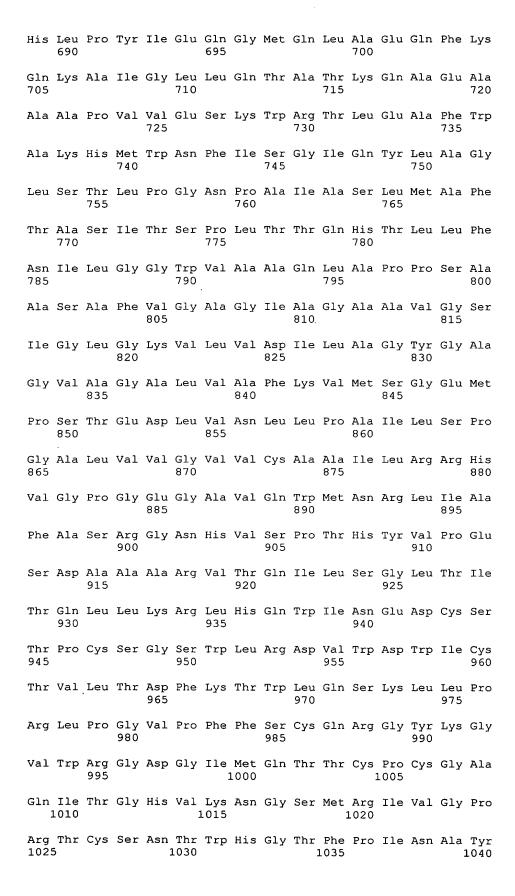
<211> 1985

<212> PRT

<213> Hepatitis C virus

<400> 17 Met Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Arg Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met 170 Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala Val Pro Gln Thr Phe Gln Val Ala His Leu His Ala Pro Thr Gly 200 Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr 215 Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly 250 Val Arg Thr Ile Thr Thr Gly Ala Pro Ile Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu Gly Ile 295 Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn 325 330

Ile Glu Glu Val Ala Leu Ser Ser Thr Gly Glu Ile Pro Phe Tyr Gly 345 Lys Ala Ile Pro Ile Glu Thr Ile Lys Gly Gly Arg His Leu Ile Phe Cys His Ser Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Ser Gly Leu Gly Leu Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val Ile Pro Thr Ser Gly Asp Val Ile Val Val Ala Thr Asp Ala Leu Met 405 Thr Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys 425 Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly 455 Arg Thr Gly Arg Gly Arg Met Gly Ile Tyr Arg Phe Val Thr Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr 490 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val 500 505 Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp 520 His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp 535 Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser Trp Asp Gln Met Trp Glu Cys Leu Ile Arg Leu Lys Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn 600 Glu Val Thr Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met 615 Ser Ala Asp Leu Glu Val Val Thr Ser Thr Trp Val Leu Val Gly Gly Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Thr Thr Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp 665 Arg Glu Val Leu Tyr Arg Glu Phe Asp Glu Met Glu Glu Cys Ala Ser 680



Thr Thr Gly Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala 1045 1050 1055

Leu Trp Arg Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly
1060 1065 1070

Asp Phe His Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro 1075 1080 1085

Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg 1090 1095 1100

Leu His Arg Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val 1105 1110 1115 1120

Thr Phe Leu Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro 1125 1130 1135

Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp 1140 1145 1150

Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Gly Leu Ala Arg Gly 1155 1160 1165

Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro 1170 1175 1180

Ser Leu Lys Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp 1185 1190 1195 1200

Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile 1205 1210 1215

Thr Arg Val Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu 1220 1225 1230

Pro Leu Gln Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu 1235 1240 1245

Ile Leu Arg Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala 1250 1255 1260

Arg Pro Asp Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp 1265 1270 1275 1280

Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala 1285 1290 1295

Pro Pro Ile Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu 1300 1305 1310

Ser Thr Val Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly
1315 1320 1325

Ser Ser Glu Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro 1330 1335 1340

Asp Gln Pro Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr 1345 1350 1355 1360

Ser Ser Met Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser 1365 1370 1375

Asp Gly Ser Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val 1380 1385 1390

Cys Cys Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys 1395 1400 1405

Ala Ala Glu Glu Thr Lys Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu 1410 1415 1420

Leu Arg His His Asn Leu Val Tyr Ala Thr Thr Ser Arg Ser Ala Ser 1425 1430 1435 1440

Leu Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp 1445 1450 1455

His Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val \$1460\$ \$1470\$

Lys Ala Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro  $1475 \\ 1480 \\ 1485$ 

His Ser Ala Arg Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn 1490 1495 1500

Leu Ser Ser Lys Ala Val Asn His Ile Arg Ser Val Trp Lys Asp Leu 1505 1510 1515 1520

Leu Glu Asp Thr Glu Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn 1525 1530 1535

Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg 1540 1545 1550

Leu Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala 1555 1560 1565

Leu Tyr Asp Val Val Ser Thr Leu Pro Gln Ala Val Met Gly Ser Ser 1570 1575 1580

Tyr Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn 1585 1590 1595 1600

Ala Trp Lys Ala Lys Lys Cys Pro Met Gly Phe Ala Tyr Asp Thr Arg 1605 1610 1615

Cys Phe Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Ser 1620 1625 1630

Ile Tyr Gln Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Arg 1635 1640 1645

Ser Leu Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys 1650 1655 1660

Gly Gln Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr 1665 1670 1675 1680

Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ala Ala Ala 1685 1690 1695

Cys Arg Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp 1700 1705 1710

Asp Leu Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Glu Ala 1715 1720 1725

Ser Leu Arg Ala Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro 1730 1735 1740

Gly Asp Pro Pro Lys Pro Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys 1745 1750 1755 1760

Ser Ser Asn Val Ser Val Ala His Asp Ala Ser Gly Lys Arg Val Tyr \$1765\$ \$1770\$ \$1775\$

Tyr Leu Thr Arg Asp Pro Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu 1780 1785 1790

Thr Ala Arg His Thr Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met 1795 1800 1805

Tyr Ala Pro Thr Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe 1810 1815 1820

Ser Ile Leu Leu Ala Gln Glu Gln Leu Glu Lys Ala Leu Asp Cys Gln 1825 1830 1835 1840

Ile Tyr Gly Ala Cys Tyr Ser Ile Glu Pro Leu Asp Leu Pro Gln Ile 1845 1850 1855

Ile Gln Arg Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser 1860 1865 1870

Pro Gly Glu Ile Asn Arg Val Ala Ser Cys Leu Arg Lys Leu Gly Val 1875 1880 1885

Pro Pro Leu Arg Val Trp Arg His Arg Ala Arg Ser Val Arg Ala Arg 1890 1895 1900

Leu Leu Ser Gln Gly Gly Arg Ala Ala Thr Cys Gly Lys Tyr Leu Phe 1905 1910 1915 1920

Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile Pro Ala Ala 1925 1930 1935

Ser Gln Leu Asp Leu Ser Ser Trp Phe Val Ala Gly Tyr Ser Gly Gly
1940 1945 1950

Asp Ile Tyr His Ser Leu Ser Arg Ala Arg Pro Arg Trp Phe Met Trp 1955 1960 1965

Cys Leu Leu Leu Ser Val Gly Val Gly Ile Tyr Leu Leu Pro Asn 1970 1975 1980

Arg 1985

<210> 18

<211> 447

<212> PRT

<213> Hepatitis C virus

<400> 18

Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val Leu 1 5 10 15

Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro 20 25 30

Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg 35 40 45

Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr 50 60

Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg 105 Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His 120 125 Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val 135 Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg 150 Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro 185 Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Gly Leu Ala Arg Gly Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro Ser Leu Lys 230 235 Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val 265 Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu Pro Leu Gln 280 Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu Ile Leu Arg 295 Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala Arg Pro Asp 310 315 Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala Pro Pro Ile 345 Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu Ser Thr Val 360 Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly Ser Ser Glu Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro Asp Gln Pro Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr Ser Ser Met 405 410

Pro Pro Leu Glu Glu Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser 420 425 430

Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val Cys Cys 435 440 445

<210> 19

<211> 447

<212> PRT

<213> Hepatitis C virus

<400> 19

Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val Leu  $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro 20 25 30

Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg 35 40 45

Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr 50 55 60

Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
65 70 75 80

Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly
85 90 95

Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg 100 105 110

Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His 115 120 125

Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val 130 135 140

Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg 145 150 155 160

Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu 165 170 175

Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro 180 185 190

Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His 195 200 205

Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly Ser Pro Pro
210 215 220

Ser Leu Ser Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro Ser Leu Lys 225 230 235 240

Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp Leu Ile Glu 245 250 255

Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val 260 265 270



Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu Pro Leu Gln 275 280 285

Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu Ile Leu Arg 290 295 300

Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala Arg Pro Asp 305 310 315 320

Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp Tyr Val Pro 325 330 335

Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala Pro Pro Ile 340 345 350

Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu Ser Thr Val 355 360 365

Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly Ser Ser Glu 370 375 380

Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro Asp Gln Pro 385 390 395 400

Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr Ser Ser Met  $405 \hspace{1.5cm} 410 \hspace{1.5cm} 415 \hspace{1.5cm}$ 

Pro Pro Leu Glu Glu Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser  $420 \hspace{1.5cm} 425 \hspace{1.5cm} 430$ 

Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val Cys 435 440 445

<210> 20

<211> 447

<212> PRT

<213> Hepatitis C virus

<400> 20

Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val Leu  $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro 20 25 30

Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg 35 40 45

Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr 50 60

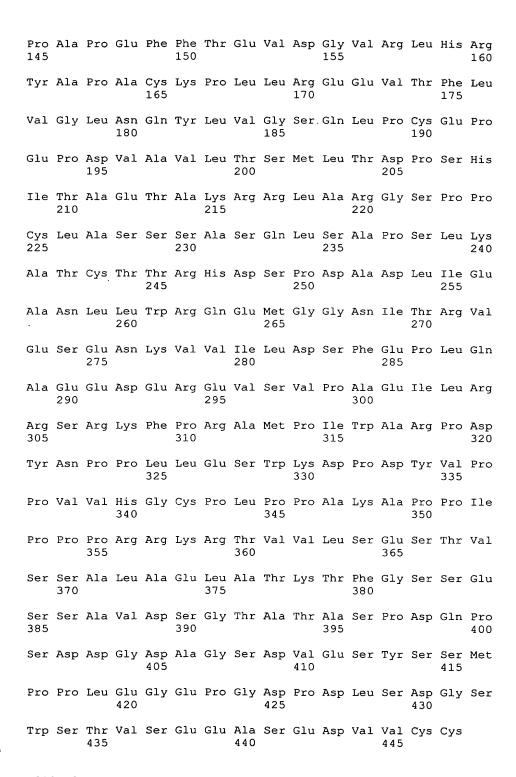
Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys 65 70 75 80

Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly  $85 \hspace{1.5cm} 90 \hspace{1.5cm} 95$ 

Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg 100 \$105\$

Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His 115 120 125

Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val 130 135 140



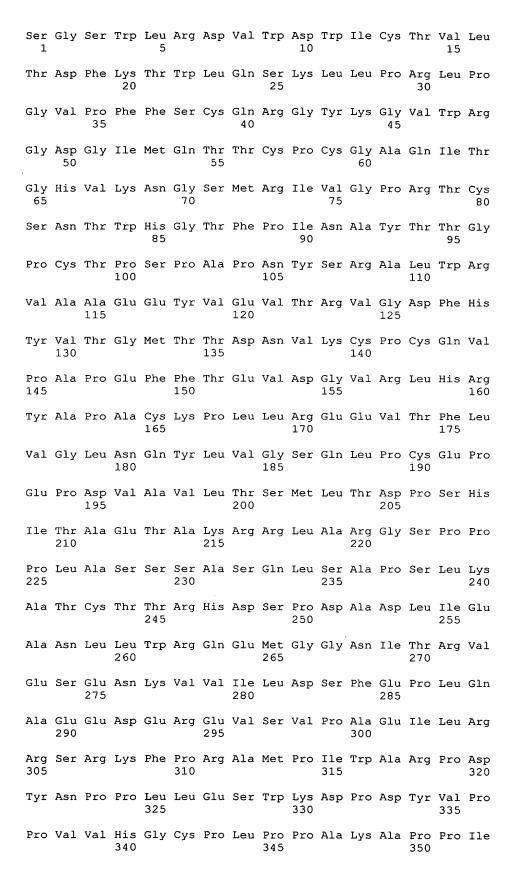
<210> 21

<211> 447

<212> PRT

<213> Hepatitis C virus

<400> 21







Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu Ser Thr Val 355 360 365

Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly Ser Ser Glu 370 375 380

Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro Asp Gln Pro 385  $^{\circ}$  390  $^{\circ}$  395  $^{\circ}$  400

Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr Ser Ser Met 405 410 415

Pro Pro Leu Glu Glu Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser 420 425 430

Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val Cys-Cys 435 ... 440 445